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GARLICK HARRISON & MARKISON
P.O. BOX 160727
AUSTIN, TX 78716-0727

EXAMINER	
ANDRAMUNO, FRANKLIN S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/079,367	YOUSEF ET AL.	
	Examiner	Art Unit	
	FRANKLIN S. ANDRAMUNO	2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/17/09*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15 and 31-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15 and 31-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 02/17/09 has been entered.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 36-37, 39-43 and 45 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying subject matter nor positively tie to another

statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ertel et al (US 7,031,290 B2) in view of Ariyoshi et al (US Patent 5,930, 244) in view of Rakib et al (US Patent 6,356,555 B1). Hereinafter referred as Ertel, Ariyoshi and Rakib.

Regarding claims 1 and 6, Ertel discloses a cable modem system that is operable using synchronous code division multiple access for a plurality of channels **(column 1 lines 15-19)**, comprising: a plurality of channels; a channel termination system **(User Equipment (12) in figure 1)** and a channel network segment that communicatively couples the channel termination system to the plurality of channel; and wherein the channel termination system is operable to provide network access to each channel within the plurality of channel **(Core Network (14) in figure 1)**, the network access being provided using a plurality of channel user signals, each channel user signal being transmitted from the channel termination system to at least one of the channel within the plurality of channel **(Multi-element adaptive array in figure 1)**; the channel termination system spreads each of the channel user signals using an

orthogonal code to generate a plurality of orthogonal code spread channel user signals **(column 1 lines 51-54)**; the channel termination system sums plurality of orthogonal code spread channel user signals together to generate a summed, orthogonal code spread signal **(Figure 9)**; the channel termination system spreads the summed, orthogonal code spread signal using a pseudo-noise code to generate a pseudo-noise code signal **(column 1 lines 15-19)**; the channel termination system provides pseudo-noise code synchronization information to at least one channel **(User equipment (12) in figure 1)**; the at least one channel within the plurality of channel de-spreads the pseudo-noise code signal using the pseudo-noise code to generate a pseudo-noise de-spread channel user signal; and the at least one channel de-spreads the pseudo-noise de-spread channel user signal using the orthogonal code.

However, Ertel fails to disclose the use of a plurality of cable modem. Ariyoshi shows in **(figure 10)** of a network comprising a pluratlity of terminal stations. Also, Ariyoshi discloses in **(column 6 lines 38-42)** of a pseudo noise generator.

Therefore, it would have been obvious at the time of the invention to include the use of a plurality of cable modem. This is a useful combination because the system is capable of exchanging information among TV cable users.

However, Ertel and Ariyoshi fail to disclose a system invention related to a broadcasting system. Rakib discloses in **(column 3 lines)** the communication link between the cable networks typically involve a so-called head end or central unit from which video is transmitted to subscribers.

Therefore, it would have been obvious at the time of the invention to include the use of a broadcasting system capable of supporting a cable modem connection with pseudo-noise code generation and synchronization to a plurality of terminal stations. This is a useful combination because it allows a system to transmit signals to users such as television signals, internet data, voice or video communication.

Regarding claims 2 and 7, Rakib discloses the cable modem system of claim 1, wherein the network access provided to each cable modem **(column 6 lines 60-67)** within the plurality of cable modems comprises Internet access. Rakib discloses **(column 1 lines 16-29)** of a system which has access to the internet.

Regarding claims 3 and 8, Rakib discloses the cable modem system of claim 1, further comprising a modulator, communicatively coupled to the cable modem termination system **(column 6 lines 60-67)**, that modulates the pseudo-noise code signal; and the modulated pseudo-noise code signal being transmitted from the cable modem termination system to the at least one cable modem via the cable modem network segment **(PN generator (321) in figure 9 Ariyoshi)**.

Regarding claims 4 and 9, Ertel discloses the cable modem system of claim 1, wherein the cable modem termination system performs transmit equalization of a communication path **(Matched filter/Equalization (32) in figure 2)**, between the between the cable modem termination system and the at least one cable modem, within the cable modem network segment **(Network in figure 10 (Ariyoshi))**

Regarding claims 5 and 10, Ertel discloses the cable modem system of claim 4, wherein the orthogonal code spreading and the pseudo-noise code spreading operate cooperatively to minimize effects of multi-path across the communication path **(column 7 lines 23-31)**.

5. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ariyoshi et al (US Patent 5,930, 244) in view of Rakib et al (US Patent 6,356,555 B1). Hereinafter referred as Ariyoshi and Rakib..

Regarding claim 11, Ariyoshi discloses a cable modem within a cable modem system **(figure 1)** that is operable using synchronous code division multiple access, comprising: a transmit block comprising an orthogonal code spreader and a pseudo-noise spreader **(transmitting phase controller (315) in figure 9)**; and a receive block **(Received signal (Rx) in figure 8)** comprising a pseudo-noise de-spreader **(column 5 lines 37-44)** and an orthogonal code de-spreader **(column 2 lines 54-61)**; and wherein the transmit block **(Transmitting signal (Tx-i) in figure 8)** being operable to spread a cable modem user signal using the orthogonal code **(Orthogonal Code in figure 8)** spreader to generate an orthogonal code spread cable modem user signal **(Orthogonal Code Generator in figure 8)**; the transmit block being operable to spread a orthogonal code spread cable modem user signal using the pseudo-noise code spreader to generate a pseudo-noise code spread cable modem user signal **(PN generator (PNr) in figure 8)**; the receive block being operable to de-spread a received cable modem user signal using the pseudo-noise code de-spreader **(pseudo-noise generator in**

figure 3) to generate an orthogonal code spread de-cable modem user signal **(orthogonal code generator in figure 3)**; and the transmit block being operable to de-spread the orthogonal code spread de-cable modem user using the pseudo-noise de-spreader **(Reverse link synchronization controller (103) in figure 4)**.

However, Ariyoshi fails to teach each of the pseudo-noise spreader and the pseudo-noise de-spreader employs a same pseudo-noise code employed by all other cable modems. Rakib teaches on **(column 73 lines 30-36)** all RU and CU code diversity shufflers receive this same seed and all RUs having active timeslots and the CU operate synchronously to assign the same CDMA code to the active timeslots so that the CU can recover the DCMA spread data transmitted by the RU using the same CDMA code(s) that were used to spread it. Rakib also teaches that within the cable modem system in accordance with spreading respective cable modem user signals **(column 103 lines 1-39)** and de-spreading respective received pseudo-noise code spread cable modem user signals **(column 103 lines 40-54)**.

Therefore, it would have been obvious at the time of the invention to include the use of a pseudo-noise spreader and a pseudo-noise de-spreader employing the same pseudo-noise code by all other cable modem. This is a useful combination because the system is capable of handling a plurality of cable modem without

Regarding claim 12, Ariyoshi discloses the cable modem of claim 11, wherein the transmit block further comprises a modulator and the receive block further comprises a

de-modulator **(column 13 line 16)**; the modulator modulates the pseudo-noise code spread cable modem user signal before transmission to a cable modem termination system via a cable modem network segment **(column 13 line 31)**; and the de-modulator de-modulates the received cable modem user signal, the received cable modem user signal being received from the cable modem termination system via the cable modem network segment **(figure 10)**

Regarding claim 13, Ariyoshi discloses the cable modem of claim 11, wherein the cable modem termination system is operable to provide network access to the cable modem **(figure 1)**.

Regarding claim 14, Rakib discloses the cable modem of claim 13, wherein the network access comprises Internet access **(column 1 lines 16-29)**.

Regarding claim 15, Rakib discloses the cable modem of claim 11, further comprising a front-end filter that is operable to perform ingress cancellation filtering **(column 67 lines 44-50)**.

6. Claims 31-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib et al (US Patent 6,356,555 B1) in view of Ariyoshi et al (US Patent 5,930, 244). Hereinafter referred as Rakib and Ariyoshi.

Regarding claim 31 Rakib teaches a cable modem system **(column 3 lines 52-60)** that is operable using synchronous code division multiple access **(column 9 lines 22-25)** for a plurality of cable modem channels **(column 35 lines 37-49)**. Each of the

plurality of cable modems employs its respective pseudo-noise de- spreader, that operates using a pseudo-noise code that is common to all of the plurality of cable modems Rakib teaches on **(column 73 lines 30-36)** all RU and CU code diversity shufflers receive this same seed and all RUs having active timeslots and the CU operate synchronously to assign the same CDMA code to the active timeslots so that the CU can recover the DCMA spread data transmitted by the RU using the same CDMA code(s) that were used to spread it. Rakib also teaches that within the cable modem system in accordance with spreading respective cable modem user signals **(column 103 lines 1-39)**.

However, Rakib fails to teach a system comprising: a plurality of cable modems such that each of the plurality of cable modems includes a respective pseudo-noise de-spreader and a respective orthogonal code de- spreader. Ariyoshi teaches on **(figure 3)** a pseudo-noise generator and a orthogonal generator. Ariyoshi also teaches each of the plurality of cable modems receives a pseudo-noise code signal **(column 6 lines 30-44)**; to de-spread the pseudo-noise code signal thereby generating its respective pseudo-noise de-spread cable modem user signal **(column 9 lines 28-38)**; each of the plurality of cable modems de-spreads its respective pseudo-noise de-spread cable modem user signal using its respective orthogonal code **(terminal station in figure 10)**; and each of the plurality of orthogonal codes corresponds to one respective cable modem of the plurality of cable modems **(Orthogonal Code in figure 1)**.

Therefore, it would have been obvious at the time of the invention to include the use of a plurality of cable modems. This is a useful combination because combining a system to run faster is an advantage to prior art.

Regarding claim 32 Rakib teaches the cable modem system of claim 31, further comprising: a cable modem termination system **(column 3 lines 52-60)** coupled to each of the plurality of cable modems via a cable modem network segment **(column 35 lines 37-49)**; and wherein: the cable modem termination system transmits the pseudo-noise code signal to each of the plurality of cable modems **(pseudo-noise generator in figure 3)**; the cable modem termination system includes a cable modem termination system pseudo-noise control module **(column 6 lines 30-44 Ariyoshi)**; each of the of the plurality of cable modems includes a respective cable modem pseudo-noise control module coupled to its respective pseudo-noise de-spreader **(column 9 lines 28-38 Ariyoshi)**; and the cable modem termination system pseudo-noise control module provides a control signal to at least one respective cable modem pseudo-noise control module **(column 7 lines 31-40 Ariyoshi)** to enable its respective pseudo-noise de-spreader to de-spread the pseudo-noise code signal **(column 9 lines 66-67 Ariyoshi)**.

Regarding claim 33 Rakib teaches the cable modem system of claim 31, wherein: each of the of the plurality of cable modems **(column 3 lines 52-60)** includes a respective cable modem pseudo-noise control module **(pseudo-noise generator in figure 3)**; each of the of the plurality of cable modems includes a respective OR gate coupled to its respective cable modem pseudo-noise control module **(column 50 lines**

17-21); each respective cable modem pseudo-noise control module provides an enable signal **(column 9 lines 66-67 Ariyoshi)** and the pseudo-noise code to its respective OR gate; and when permitted by the enable signal provided to its respective OR gate **(column 62 lines 40-45)**, a respective pseudo-noise de-spreader of a respective cable modem is operative to de- spread the pseudo-noise code signal using the pseudo-noise code to generate its respective pseudo-noise de-spread cable modem user signal **(column 8 lines 28-38 Ariyoshi)**.

Regarding claim 34 Rakib teaches the cable modem system **(column 3 lines 52-60)** of claim 33, further comprising: a cable modem termination system coupled to each of the plurality of cable modems via a cable modem network segment **(column 35 lines 37-49)**; and wherein: the cable modem termination system transmits the pseudo-noise code signal to each of the plurality of cable modems **(pseudo-noise generator in figure 3 Ariyosi)**; the cable modem termination system includes a cable modem termination system pseudo-noise control module **(column 7 lines 31-40 Ariyoshi)**; and the cable modem termination system pseudo-noise control module provides the enable signal to at least one respective cable modem pseudo-noise control module **(column 50 lines 17-21 Ariyoshi),** at least one respective cable modem pseudo-noise control module to enable its respective pseudo-noise de-spreader to de-spread the pseudo-noise code signal **(column 8 lines 28-38 Ariyoshi)**.

Regarding claim 35 Rakib teaches the cable modem system of claim 34, wherein: the cable modem termination system **(column 3 lines 52-60)** pseudo-noise control module also provides pseudo-noise synchronization information **(pseudo-noise**

generator in figure 3 Ariyoshi) to each respective cable modem pseudo-noise control module within each respective cable modem of the plurality of cable modems **(column 35 lines 37-49)**.

7. Claims 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib et al (US Patent 6,356,555 B1) in view of Ariyoshi et al (US Patent 5,930, 244). Hereinafter referred as Rakib and Ariyoshi.

Regarding claim 36 Rakib teaches a method, comprising: spreading a first input signal using a first orthogonal code **(column 6 lines 55-60)**, of a plurality of orthogonal codes, thereby generating a first orthogonal code spread signal **(column 7 lines 21-40)**; spreading a second input signal using a second orthogonal code **(column 9 lines 1-4)**, of the plurality of orthogonal codes **(column 38 lines 1-4)**, thereby generating a second orthogonal code spread signal **(column 53 lines 50-53)**; summing the first orthogonal code spread signal and the second orthogonal code spread signal thereby generating a summed spread signal **(column 78 lines 18-23)**.

However, Rakib fails to teach spreading the summed spread signal using a pseudo-noise code thereby generating a pseudo-noise code spread signal. Ariyoshi teaches on **(figure 3)** a pseudo-noise generator. Ariyoshi also teaches transmitting the pseudo-noise code spread signal **(column 50 lines 17-21 Ariyoshi)** from a transmitter to a receiver of a plurality of receivers such that each orthogonal code of the plurality of orthogonal codes corresponds to one respective receiver of the plurality of receivers **(column 1 lines 42-55)**; de-spreading the pseudo-noise code spread signal using the

pseudo-noise code thereby generating a pseudo-noise code de-spread signal **(column 8 lines 28-38 Ariyoshi)**; and de-spreading the pseudo-noise code de-spread signal using the first orthogonal code thereby generating an orthogonal code de-spread signal **(column 9 lines 28-38 Ariyoshi)**.

Therefore, it would have been obvious at the time of the invention to include the use of a plurality of cable modem. This is a useful combination because the system is capable of exchanging information among TV cable users.

Regarding claim 37 Ariyoshi teaches the method of claim 36, further comprising: within a first receiver of the plurality of receivers: de-spreading the pseudo-noise code spread signal **(column 8 lines 28-38)** using the pseudo-noise code thereby generating the pseudo-noise code de-spread signal **(column 9 lines 28-38)**; and de-spreading the pseudo-noise code de-spread signal using the first orthogonal code thereby generating the orthogonal code de-spread signal **(column 1 lines 49-55)**; and within a second receiver of the plurality of receivers: de-spreading the pseudo-noise code spread signal **(pseudo-noise generator in figure 3)** using the pseudo-noise code thereby generating a second pseudo-noise code de-spread signal **(column 9 lines 1-4)**; and de-spreading the second pseudo-noise code de-spread signal using the second orthogonal code thereby generating a second orthogonal code de-spread signal **(column 1 lines 61-66)**.

Regarding claim 38 Rakib teaches the method of claim 36, wherein: the transmitter is a cable modem termination system **(column 3 lines 52-60)**; and the

plurality of receivers is a plurality of cable modems coupled to the cable modem termination system **(column 35 lines 37-49)**.

Regarding claim 39 Rakib teaches the method of claim 36, further comprising: performing ingress cancellation filtering **(column 67 lines 44-50)** to the pseudo-noise code spread signal before de-spreading the pseudo-noise code spread signal using the pseudo-noise code **(column 9 lines 1-4 Ariyoshi)**.

Regarding claim 40 Ariyoshi teaches the method of claim 36, further comprising: providing an enable signal from the receiver to the transmitter; and within the receiver, employing the enable signal to direct the spreading **(column 6 lines 31-36)** the summed spread signal using the pseudo-noise code thereby generating the pseudo-noise code spread signal **(column 1 lines 49-55)**.

8. Claims 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rakib et al (US Patent 6,356,555 B1) in view of Ariyoshi et al (US Patent 5,930, 244). Hereinafter referred as Rakib and Ariyoshi.

Regarding claim 41 Rakib teaches a method, comprising: receiving an enable signal **(column 47 lines 34-38)**; spreading a first input signal using a first orthogonal code **(column 6 lines 55-60)**, of a plurality of orthogonal codes **(column 38 lines 1-4)**, thereby generating a first orthogonal code spread signal **(column 7 lines 21-40)**; spreading a second input signal using a second orthogonal code **(column 9 lines 1-4)**, of the plurality of orthogonal codes, thereby generating a second orthogonal code

spread signal **(column 53 lines 50-53)**; summing the first orthogonal code spread signal and the second orthogonal code spread signal thereby generating a summed spread signal **(column 78 lines 18-23)**; selectively spreading the summed spread signal, based on the enable signal **(column 106 lines 27-30).**

However, Rakib fails to teach using a pseudo-noise code. Ariyoshi teaches on **(figure 3)** a pseudo-noise generator. Ariyoshi also generates a pseudo-noise code spread signal **(column 50 lines 17-21)**; and based on the enable signal, transmitting either the pseudo-noise code spread signal **(column 8 lines 28-38)** or the summed spread signal from a transmitter to a plurality of receivers such that each orthogonal code of the plurality of orthogonal codes **(column 9 lines 28-38)** corresponds to one respective receiver of the plurality of receivers **(column 1 lines 42-55)**.

Therefore, it would have been obvious at the time of the invention to include the use of a plurality of cable modem. This is a useful combination because the system is capable of exchanging information among TV cable users.

Regarding claim 42 Ariyoshi teaches the method of claim 41, further comprising: within a first receiver of the plurality of receivers that receives the summed spread signal **(column 6 lines 7-12)**, de-spreading the summed spread signal using the first orthogonal code thereby generating a first orthogonal code de-spread signal **(figure 1)**; and within a second receiver of the plurality of receivers that receives the summed spread signal **(column 2 lines 50-54)**, de-spreading the pseudo-noise code spread

signal using the second orthogonal code thereby generating a second orthogonal code de-spread signal **(column 8 lines 28-38)**.

Regarding claim 43 Rakib teaches the method of claim 41, further comprising: within a first receiver of the plurality of receivers **(column 7 lines 21-40)** that receives the pseudo-noise code spread signal **(column 9 lines 1-4 Ariyoshi)**: de-spreading the pseudo-noise code spread **(figure 1 Ariyoshi)** signal using the pseudo-noise code thereby generating a first pseudo-noise code de-spread signal **(column 50 lines 17-21 Ariyoshi)**; and de-spreading the first pseudo-noise code de-spread signal using the first orthogonal code thereby generating a first orthogonal code de-spread signal **(column 8 lines 28-38 Ariyoshi)**; and within a second receiver of the plurality of receivers that receives the pseudo- noise code spread signal **(column 9 lines 28-38 Ariyoshi)**: de-spreading the pseudo-noise code spread signal using the pseudo-noise code thereby generating a second pseudo-noise code de-spread signal **(pseudo-noise generator in figure 5)**; and de-spreading the second pseudo-noise code de-spread **(column 1 lines 42-55 Ariyoshi)** signal using the second orthogonal code thereby generating a second orthogonal code de-spread signal **(orthogonal code generator in figure 2)**.

Regarding claim 44 Ariyoshi teaches the method of claim 41, further comprising: the transmitter is a cable modem termination system **(column 3 lines 52-60)**; and the plurality of receivers is a plurality of cable modems coupled to the cable modem termination system **(column 7 lines 21-40)**.

Regarding claim 45 Rakib teaches the method of claim 41, further comprising: within a receiver of the plurality of receivers that receives the pseudo-noise code spread

signal **(column 7 lines 21-40)**, performing ingress cancellation filtering **(column 67 lines 44-50)** to the pseudo-noise code spread signal before de-spreading the pseudo-noise code spread signal using the pseudo-noise code **(column 9 lines 1-4 Ariyoshi)**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANKLIN S. ANDRAMUNO whose telephone number is (571)270-3004. The examiner can normally be reached on Mon-Thurs (7:30am - 5:00pm) alternate Fri off (EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571)272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Kelley/
Supervisory Patent Examiner, Art Unit 2424